

4



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/878,499	06/11/2001	Jeffrey S. Brown	L13.12-0154/00-674	3071

7590 10/03/2002

Pete P. Scott
LSI LOGIC CORPORATION
M/S D-106
1551 McCarthy Boulevard
Milpitas, CA 95033

EXAMINER

THOMPSON, ANNETTE M

ART UNIT	PAPER NUMBER
----------	--------------

2825

DATE MAILED: 10/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/878,499

Applicant(s)

BROWN ET AL.

Examiner

A. M. Thompson

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants' Amendment to 09/878,499 has been examined and remarks reviewed.

Claim 1 is amended. Claims 1-5 are pending.

1. Applicants' Amendment is not considered completely persuasive and the applicable rejections of the prior office action are incorporated herein.

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The invention is directed to the elimination of antenna rule violations at hard macro ports. However, the claims merely claim a hard macro and a method of forming a hard macro without mention of an improvement or any mention of elimination of antenna rule violations.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Rejection of Claims 1, 2, 4, 5

4. Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Borel, U.S. Patent 6,130,460. Borel discloses a method of IC design that enables the elimination of antenna rules violations.

Art Unit: 2825

5. Pursuant to claim 1 which recites a hard macro (col. 2, ll. 33-35 discloses the use of components) an I/O port (EMP point, col. 6, 3-12) having a port metallic conductor in a low level metalization layer (see Fig. 1); an I/O transistor (col. 4, line 65 to col. 5, line 5) having a gate conductor separated from a diffusion region by a gate oxide layer (col. 5, ll. 3-5); a top level metallic conductor of a highest level metalization layer that is electrically coupled to a diffusion region (col. 5, ll. 63-67); an electrical connection (col. 5, ll. 30-34) between the port level metallic conductor and the gate conductor including a first conducting section extending from the gate conductor to the top level metallic conductor and a second conducting section extending from the top level metallic conductor to the port level conductor.

6. Pursuant to claim 2, wherein the first and second conducting sections include a plurality of vias (col. 5, ll. 53-67, V1, V2) extending vertically between the adjacent metalization layers (Fig. 10 illustrates M1 and M2).

7. Pursuant to claim 4, wherein an integrated circuit (see claim 23) includes a plurality of the hard macros of claim 1 (see also col. 5, ll. 9-15).

8. Pursuant to claim 5, it addresses the limitations already rejected in claim 1, supra, and incorporates a process of production. Borel also includes a process of production, see e.g. claim 1 "a process for producing". Therefore claim 5 is likewise rejected using the rationale of claim 1.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2825

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Rejection of Claim 3

11. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Borel and Applicants' admitted prior art. Borel discloses a method of IC design to eliminate antenna rules violations. Although Borel discloses that components (e.g. macros) comprise the integrated circuit (col. 5, ll. 9-15), Borel does not explicitly delineate the names of the circuit components. Applicants' Background of the Invention, (in Applicants' specification page 1, lines 15-18) specifies that the circuit components include the specific macros claimed by Applicant, e.g. processor cores, memory arrays, input and output interface circuits, encodes, and decoders. It therefore would have been obvious to one of ordinary skill in the art that Borel, coupled with Applicants' explicit prior art admission, teaches or suggests Applicants' claimed limitation.

R marks

12. Despite Applicant's traversals, Examiner considers the Borel's components in the integrated circuit to be macros (column 2, lines 26-35). Furthermore, the EMP point is located at a position which could be considered a port position.

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to A.M. Thompson whose telephone number is (703) 305-7441. The Examiner can usually be reached Monday thru Friday from 8:00 a.m. to 5:00 p.m.. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Matthew S. Smith, can be reached on (703) 308-1323.

Art Unit: 2825

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956 or the Customer Service Center whose telephone number is (703)306-3329.

15. Responses to this action should be mailed to:

Commissioner of Patents and Trademarks

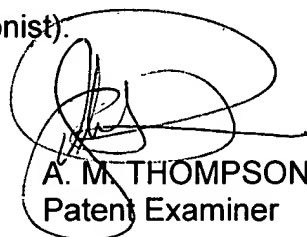
Washington, D.C. 20231

or faxed to:

(703) 872-9318, (for **OFFICIAL** communications intended for entry)

(703) 872-9319, (for Official **AFTER-FINAL** communications)

Hand-delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).



A. M. THOMPSON
Patent Examiner

27 September 2002



MATTHEW SMITH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800